



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Linda G. Lee et al.	Art Unit:	1637
Application Serial No.:	10/788,836	Examiner:	Jezia Riley
Filed:	February 26, 2004	Confirmation No.:	7978
For:	ENERGY TRANSFER DYES WITH ENHANCED FLUORESCENCE	Docket No:	375461-002T1C4

## INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §§ 1.97 and 1.98, Applicant submits herewith patents, publications and/or other information (listed below and/or on the attached Substitute Form PTO 1449) that may be material to the examination of the captioned application, and in respect of which there may be a duty of disclosure as set forth in 37 CFR § 1.56, for consideration and to be made of record in the captioned application by the U.S. Patent and Trademark Office.

1. ☐ In accordance with 37 CFR 1.98, accompanying this Information Disclosure Statement are:

1a. ☐ copies of: (i) each foreign patent listed on the attached Substitute Form PTO 1449; (ii) each publication listed on the attached Substitute Form PTO 1449, or that portion which caused it to be listed, *other than* U.S. patents and U.S. patent application publications; (iii) for each pending unpublished U.S. application, a copy of the application specification including the claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion; and (iv) other information, or that portion which caused it to be listed herein or on the attached Substitute Form TP) 1449 (37 CFR § 1.98(a)(2)); and/or

1b. ☐ a concise explanation of relevancy, or an English language translation, of non-English language publications listed on the attached Substitute Form PTO-1449 (37 CFR § 1.98(a)(3)(i) & (ii)).

2. ☒ Copies of the documents listed on the attached Substitute Form PTO 1449 are not enclosed herewith, because the information was previously submitted to, or cited by, the U.S. Patent and Trademark Office in parent application Serial No. 10/014,743, of which the captioned application claims benefit under 35 U.S.C. § 120, and the Information Disclosure Statement submitted in that parent application complied with paragraphs (a) through (c) of 37 CFR § 1.98 (37 CFR § 1.98(d)).
3. ☒ This Information Disclosure Statement is filed under 37 CFR § 1.97(b):
- 3a. ☐ within three months of the filing date of a national application other than a continued prosecution application under 37 CFR § 1.53(d);
- 3b. ☐ within three months of the entry of the national stage as set forth in 37 CFR § 1.491 in an international application;
- 3c. ☒ before the mailing of a first Office Action on the merits; *or*
- 3d. ☐ before the mailing of a first Office Action after the filing of a Request for Continued Examination under 37 CFR § 1.114. Accordingly, no certification or fee is required.
4. ☐ This Information Disclosure Statement is filed under CFR § 1.97(c) after the period specified by CFR § 1.97(b), but before the mailing date of any of a final Office Action under 37 CFR § 1.113, a notice of allowance under 37 CFR § 1.311, or an action that otherwise closes prosecution in the application, and is accompanied by one of:
- 4a. ☐ the statement specified in 37 CFR § 1.97(e); *or*
- 4b. ☐ the fee set forth in 37 CFR § 1.17(p).
5. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(d) after the period specified by CFR § 1.97(c), but on or before payment of the issue fee, and is accompanied by:
- 5a. ☐ the statement specified in 37 CFR § 1.97(e); *and*
- 5b. ☐ the fee set forth in 37 CFR § 1.17(p).
6. ☐ Certification Statement (*applicable if Item 4a or 5a is checked*)
- 6a. ☐ In accordance with 37 CFR § 1.97(e)(1), the undersigned hereby states that each item of information contained in this Information Disclosure Statement was first cited in a communication from a

foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; *or*

6b. ☐ In accordance with 37 CFR § 1.97(e)(2), the undersigned hereby states that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making a reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

7. ☐ Fee Statement and/or Authorization (*applicable if Item 4b or 5b is checked*)

7a. ☐ The fee set forth in 37 CFR § 1.17(p) is:

☐ enclosed; *or*

☐ to be charged to Dechert LLP Deposit Account No. 50-2778 (**Order No. 375461-002T1C4**).

8. ☐ Additional materials (*if applicable*)

8a. ☐ a continuation application under 37 CFR § 1.53(b)(1) is filed concurrently herewith;

8b. ☐ a Request for Continued Examination under 37 CFR § 1.114 is filed concurrently herewith; *or*

8c. ☐ a Petition to Withdraw from issue under 37 CFR § 1.313(c)(2).

As specified in 37 CFR § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made.

The filing of this Information Disclosure Statement shall not be construed as a representation that no other material information as defined in 37 CFR § 1.56(a) exists.

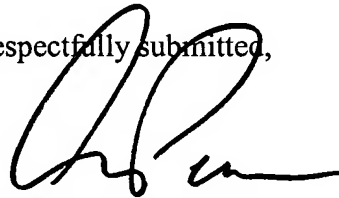
As specified in 37 CFR § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any information cited herein is, or is considered to be, material to patentability as defined in 37 CFR § 1.56(b).

Moreover, while the patents, publications and/or other information disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR § 1.56, the Disclosure is not intended to constitute an admission that any patents, publications and/or other information included or referred to herein is "prior art" to the captioned application unless specifically designated as such.

It is respectfully submitted that this Information Disclosure Statement is in compliance with 37 CFR § 1.98 and MPEP § 609. Accordingly, consideration of the foregoing and prompt return of a copy of the enclosed Substitute form PTO 1449 with the Examiner's initials in the left column in accordance with MPEP § 609 are respectfully requested.

No fees beyond those mentioned in Item 6 are believed due in connection with the Information Disclosure Statement. However, the Commissioner is authorized to charge any additional required fees, or credit any overpayment, to Dechert LLP Deposit Account No. 50-2778 (**Order No.375461-002T1C4**).

Respectfully submitted,

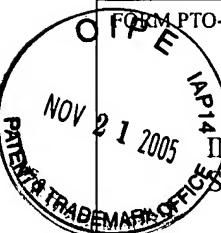


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Date: November 21, 2005

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 FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY DOCKET NO.	SERIAL NO.
	375461 002T1C4	10/788,836
	APPLICANT LEE et al.	
FILING DATE	GROUP	
February 26, 2004	1637	

### U.S. PATENT DOCUMENTS

EXAMINER INITIALS	CITE No.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS
	A1	4,318,846	03-09-1982	KHANNA <i>et al.</i>		
	A2	4,777,128	10-11-1988	LIPPA		
	A3	4,855,225	08-08-1989	FUNG <i>et al.</i>		
	A4	4,996,143	02-26-1991	HELLER <i>et al.</i>		
	A5	5,118,802	06-02-1992	SMITH <i>et al.</i>		
	A6	5,188,934	02-23-1993	MENCHEN <i>et al.</i>		
	A7	5,254,477	10-19-1993	WALT		
	A8	5,326,692	07-05-1994	BRINKLEY <i>et al.</i>		
	A9	5,340,716	08-23-1994	ULLMAN <i>et al.</i>		
	A10	5,342,789	08-30-1994	CHICK <i>et al.</i>		
	A11	5,366,860	11-22-1994	BERGOT <i>et al.</i>		
	A12	5,401,847	03-28-1995	GLAZER <i>et al.</i>		
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	A16	5,453,517	09-26-1995	KUHN <i>et al.</i>		
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	A18	5,552,540	09-03-1996	HARALAMBIDIS		
	A19	5,565,322	10-15-1996	HELLER		
	A20	5,565,554	10-15-1996	GLAZER <i>et al.</i>		
	A21	5,573,909	11-12-1996	SINGER <i>et al.</i>		

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	A22	5,582,977	12-10-1996	YUE <i>et al.</i>		
	A23	5,607,834	03-04-1997	BAGWELL		
	A24	5,646,264	07-08-1997	GLAZER <i>et al.</i>		
	A25	5,654,419	08-05-1997	MATHIES <i>et al.</i>		
	A26	5,688,648	11-18-1997	MATHIES <i>et al.</i>		
	A27	5,707,804	01-13-1998	MATHIES <i>et al.</i>		
	A28	5,728,528	03-17-1998	MATHIES <i>et al.</i>		
	A29	5,741,657	04-41-1998	TSEIN <i>et al.</i>		
	A30	5,760,201	06-02-1998	GLAZER <i>et al.</i>		
	A31	5,763,189	06-09-1998	BUECHLER <i>et al.</i>		
	A32	5,800,996	09-01-1998	LEE <i>et al.</i>		
	A33	5,824,799	10-20-1998	BUECHLER <i>et al.</i>		
	A34	5,843,658	12-01-1998	UCHIYAMA <i>et al.</i>		
	A35	5,847,162	12-08-1998	LEE <i>et al.</i>		
	A36	5,851,778	12-22-1998	OH <i>et al.</i>		
	A37	5,853,992	12-29-1998	GLAZER <i>et al.</i>		
	A38	5,869,255	02-09-1999	MATHIES <i>et al.</i>		
	A39	5,945,283	08-31-1999	KWOK <i>et al.</i>		
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	A41	6,008,373	12-28-1999	WAGGONER <i>et al.</i>		
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	A44	6,291,162	09-18-2001	TSIEN <i>et al.</i>		
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EXAMINER INITIALS	CITE No.	PUBLICATION NUMBER	DATE	NAME	COUNTRY	CLASSIFICATIO N
	<b>B1</b>	CH 12433/70	02-15-1973	HOECHST AG		
	<b>B2</b>	DE 108347	11-29-1898			
	<b>B3</b>	DE 2049503	04-22-1971	FUJI PHOTO FILM CO., LTD.		
	<b>B4</b>	DE 2049527	04-22-1971	FUJI PHOTO FILM CO., LTD.		
	<b>B5</b>	DE 3425631	01-16-1986	BASF AG		
	<b>B6</b>	DE 45263	11-13-1887			
	<b>B7</b>	DE 47451	11-13-1887			
	<b>B8</b>	EP 0 201 751 A2	11-20-1986	ABBOTT LAB		
	<b>B9</b>	EP 0 201 751 A2	11-20-1986			
	<b>B10</b>	EP 0 229 943 A2	07-29-1987			
	<b>B11</b>	EP 0 252 683	01-13-1988	DU PONT		
	<b>B12</b>	EP 0 299 943 A2	07-29-1987	MOLECULAR BIOSYSTEMS, INC.		
	<b>B13</b>	EP 0 601 889 A2	06-15-1994	MAINE MEDICAL CENTER RES		
	<b>B14</b>	EP 0 747 700 A2	12-11-1996	UNIVERSITY CARNEGIE MELLON		
	<b>B15</b>	EP 0 967 219 A1	12-29-1999	THE INSTITUTE OF PHYSICAL & CHEMICAL RESEARCH		
	<b>B16</b>	GB 2 301 833	12-18-1996	CARNEGIE MELLON UNIVERSITY		
	<b>B17</b>	JP 0410735A	04-09-1992	KAO CORP.		
	<b>B18</b>	JP 5-60698	03-12-1993			
	<b>B19</b>	JP 04107559A	09-04-1992	KAO CORP.		
	<b>B20</b>	WO 89/03041 A2	04-06-1989	BECKMAN INSTRUMENTS, INC.		
	<b>B21</b>	WO 91/03476	03-21-1991	APPLIED BIOSYSTEMS, INC.		
	<b>B22</b>	WO 91/05060	04-18-1991	APPLIED BIOSYSTEMS, INC.		
	<b>B23</b>	WO 91/07507	05-30-1991	APPLIED BIOSYSTEMS, INC.		
	<b>B24</b>	WO 92/00388	01-09-1992	UNIVERSITY OF CALIFORNIA		
	<b>B25</b>	WO 93/0648204	04-01-1993	MOLECULAR PROBES, INC.		
	<b>B26</b>	WO 93/09128	05-13-1993	NANOTRONICS, INC.		

EXAMINER INITIALS	CITE No.	PUBLICATION NUMBER	DATE	NAME	COUNTRY	CLASSIFICATION
	B27	WO 93/13224	07-08-1993	CHIRON CORP.		
	B28	WO 93/23492	11-25-1993	MOLECULAR PROBES, INC.		
	B29	WO 94/05688	03-17-1994	APPLIED BIOSYSTEMS, INC.		
	B30	WO 94/17397	08-04-1994	UNIVERSITY OF CALIFORNIA		
	B31	WO 94/28166	12-08-1994	ZENECA LTD.		
	B32	WO 95/21266	08-10-1995	UNIVERSITY OF CALIFORNIA		
	B33	WO 96/04405	02-15-1996	UNIVERSITY OF CALIFORNIA		
	B34	WO 96/30540	10-03-1996	UNIVERSITY OF CALIFORNIA		
	B35	WO 96/41166	12-19-1996	UNIVERSITY OF CALIFORNIA		
	B36	WO 97/11084	03-27-1997	UNIVERSITY OF CALIFORNIA		
	B37	WO 99/02544	01-21-1999	THE INSTITUTE OF PHYSICAL & CHEMICAL RESEARCH		

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EXAMINER INITIALS	CITE No.	INCLUDE AS APPLICABLE: AUTHOR, TITLE DATE, PUBLISHER, EDITION OR VOLUME, PERTINENT PAGES)
	C1	ABDEL-MOTTALEB, M.S.A., et al., "Photophysics and dynamics of coumarin laser dyes and their analytical implications," <i>Proc.-Indian Acad. Sci. Chem. Sci.</i> , 1992, 104: 185-196
	C2	ANTON, J.A., et al., "Transfer of Excitation Energy Between Porphyrin Centers of a Covalently-Linked Dimer," <i>Photochemistry and Photobiology</i> , 1978, 28: 235-242
	C3	ASSELINE, U., et al., "Oligonucleotides Covalently Linked to Intercalating Dyes as Base Sequence-Specific Ligands: Influence of Dye Attachment Site," <i>EMBO Journal</i> , 1984, 3: 795-800.
	C4	BENSON, S., et al., "Fluorescence Energy-Transfer Cyanine Heterodimers with High Affinity for Double-Stranded DNA-I. Synthesis and Spectroscopic Properties," <i>Analytical Biochemistry</i> , June 1995, pp. 247-255.
	C5	BENSON, S.C., et al., "Heterodimeric DNA-binding dyes designed for energy transfer: stability and applications of the DNA complexes," <i>Nucleic Acid Research</i> , November 1993, 21: 5720-5726.
	C6	BENSON, S.C., et al., "Heterodimeric DNA-binding dyes designed for energy transfer: synthesis and spectroscopic properties," <i>Nucleic Acids Research</i> , November 1993, 21: 5727-5735.
	C7	BERGSTROM, D., et al., "C-5 substituted Nucleoside Analogs," <i>SYNLETT</i> , 1992, 3: 179-188.
	C8	BOTHNER, A.A., et al., "Molecular Dynamics of covalently linked multi-porphyrin arrays," <i>J. Phys. Chem.</i> , 1996, 100: 17551-17557.
	C9	BRUMBAUGH, J., et al., "Continuous On-Line DNA Sequencing Using Oligonucleotide Primers with Multiple Fluorophores," <i>Proc. Natl. Acad. Sci. USA</i> , 1988, 85: 5610-5614.
	C10	CARDULLO, R.A., et al., "Detection of nucleic acid hybridization by nonradiative fluorescence resonance energy transfer," <i>Proc. Natl. Acad. Sci. USA</i> , December 1988, 85(23): 8790-8794.
	C11	CHIU, H.C., et al., "Electronic energy transfer between tyrosine and tryptophan in the peptides Tyr-(Pro) <sub>n</sub> -Tyr," <i>Biopolymers</i> , 1977, 16: 277.
	C12	CLEGG, R.M., "Fluorescence resonance energy transfer and nucleic acids," <i>Method Enzymol</i> , 1992, 211: 353-388.
	C13	CONRAD, R.H., et al., "Intramolecular transfer of excitation from tryptophan to 1-dimethylaminonaphthalene-5-sulfonamide in a series of model compounds," <i>Biochemistry</i> , 1968, 7: 777.
	C14	COOPER, J., et al., "Analysis of Fluorescence Energy Transfer in Duplex and Branched DNA Molecules," <i>Biochemistry</i> , 1990, 29(39): 9261-9268.
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	C16	DIRKS, G., et al., "Light absorption and energy transfer in polyene-porphyrin esters," <i>Photochemistry and Photobiology</i> , 1980, 32: 277-280.
	C17	DRAKE, J.M., et al., "Chemical and Biological Microstructures as Probed by Dynamic Processes," <i>Science</i> , March 1991, 251: 1574-1579.



C18	EFFENBERGER, F., et al., "Synthesis and optical properties of terminally substituted conjugated polyenes," <i>Angew. Chem. Int. Ed. Engl.</i> , 1988, 27(2): 281-284.
C19	FLORKIN, M., et al., "Mechanism of energy transfer," <i>Comprehensive Biochemistry</i> , 1967, 22: 61.
C20	FORSTER, T., "Intermolecular Energy Migration and fluorescence," <i>Ann. Physik (Leipzig)</i> , 1948, 2: 55.
C21	GUST, D., et al., "A synthetic system mimicking the energy transfer and charge separation of natural photosynthesis," <i>Journal of Photochemistry</i> , 1985, 27(2): 281-284.
C22	HA, T., et al., "Probing the Interaction between two single molecules: Fluorescence resonance energy transfer between a single donor and a single acceptor," <i>Biophysics</i> , June 1996, 93: 6264-6268.
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C25	HAUGLAND, R.P., "Fluorescence-Detected DNA Sequencing - Final Technical Report," Grant No. DE-FG06-88ER60684, September 1990, 15 pages.
C26	HAUGLAND, R.P., "Fluorescent Labels," <i>Biosense. Fiberopt.</i> , 1991, 85-110.
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C29	HAUGLAND, R.P., et al., "Dependence of the Kinetics of singlet-singlet energy transfer on spectral overlap," <i>Proc. Natl. Acad. Sci.</i> , 1969, 63: 23-30.
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C34	HIRZEL, T.K., "Singlet excitation transfer between terminal chromophores in 1,4-disubstituted bicyclo (2.2.2) octanes and 4,4'-disubstituted -1,1'dibicyclo (2.2.2) octyls", Ph.D. Dissertation 1980, University of Wisconsin-Madison.
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C47	LEE, L.G., et al., "Allelic discrimination by nick-translation PCR with fluorogenic probes," <i>Nucleic Acids Res.</i> , August 11, 1993, 21(16): 3761-3766.
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C51	LINDSEY, J.S., et al., "Photophysics of a cofacial porphyrin-quinone cage molecule and related compounds: Fluorescence properties, flash transients, and electron-transfer reactions," <i>J. Am. Chem. Soc.</i> , 1988, 110(11): 3610-3621.
C52	LINDSEY, J.S., et al., "Synthesis of a cofacial porphyrin-quinone via entropically favored macropolycyclization," <i>J. Am. Chem. Soc.</i> , August 11, 1982, 104(16): 4498-4500.
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C56	MILLAR, D.P., et al., "Excited-state quenching of dye-linked oligonucleotides," <i>Proc. Spie-Int. Soc. Opt. Engl.</i> , 1992, 1640: 592-598.
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